

2020

Innovator - Winter 2020

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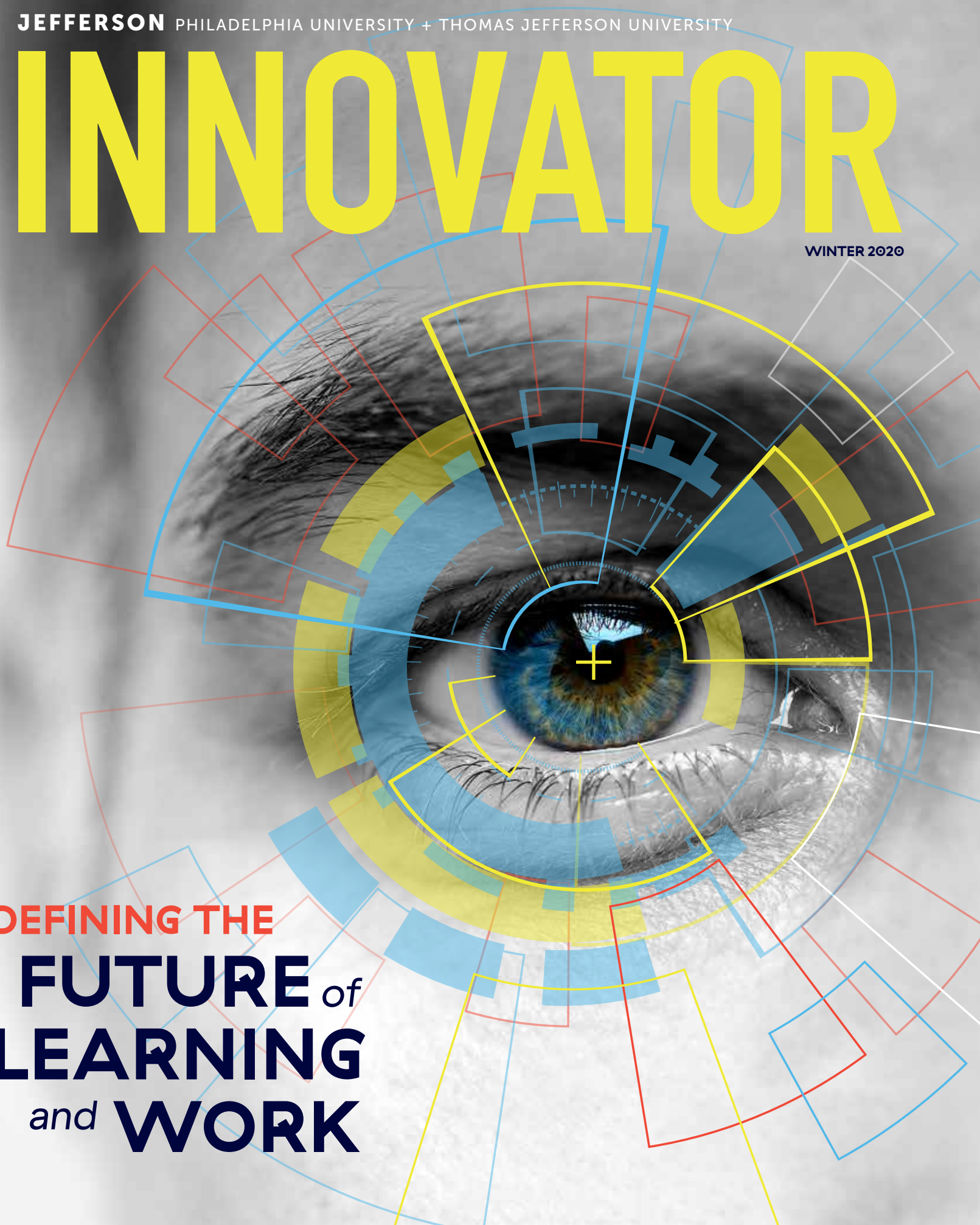
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JEFFERSON PHILADELPHIA UNIVERSITY + THOMAS JEFFERSON UNIVERSITY

INNOVATOR

WINTER 2020

DEFINING THE
FUTURE of
LEARNING
and **WORK**



THE NEXXUS

POWERED BY JEFFERSON



Jefferson proudly introduces The Nexus to help us share the inspiring stories that exist throughout the University. Learn what “redefining humanly possible” really means as told by our staff, faculty, students and alumni.

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INNOVATOR

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How well are institutions of higher education preparing their graduates for the realities of work in the 21st century?

We are determined that Jefferson graduates be
PREPARED TO HAVE LONG, FRUITFUL CAREERS—ready to
RIDE THE CREST OF THE WAVES OF CHANGE, for decades to come.

— **MARK L. TYKOCINSKI, MD**

*Provost and executive vice president, academic affairs and
vice president, Thomas Jefferson University
Anthony F. and Gertrude M. DePalma dean of Sidney Kimmel Medical College*

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Jefferson recognized alumni, industry leaders and students at the **CELEBRATION OF INNOVATION**, the University's platform for advancing the importance of higher education and innovation. Some 350 people attended this past year's event, which supports student scholarships. A variety of student work was on display, including the College of Architecture and the Built Environment's 3D printed model of the city of Philadelphia in 2050.

*The **2020 CELEBRATION OF INNOVATION** will be held on **MAY 8** at the Gallagher Center.*



On the biggest night of the year for Jefferson's **FASHION and TEXTILE DESIGN** students, 110 seniors, juniors and sophomores showcased their drive, creativity and talents under the bright lights of the Moulin at Sherman Mills. **THOMAS HEIDEBRECHT '19** received the Fashion Industry Association Award for Best Senior Collection with "FlamBOYant," which appeared at New York Fashion Week this past fall.

The **2020 FASHION SHOW** will be held on **APRIL 30** at Sherman Mills.

The highly influential website *Fashionista* has once again named Jefferson one of the **TOP FASHION SCHOOLS IN THE WORLD.**



In this transdisciplinary project, a team of students from Jefferson's **PHYSICAL THERAPY, OCCUPATIONAL THERAPY, INDUSTRIAL DESIGN** and **ENGINEERING** programs worked together to assess the children's needs and deconstruct and refine off-the-shelf toys. The sounds of racing tires and cheers filled the Kanbar patio as a handful of young kids with special needs visited Jefferson – East Falls Campus to try out their unique ride-on cars.



A MESSAGE FROM THE PRESIDENT

What I tell students every year is what I believe about our University itself: This is an exciting time to be bold, to be creative and to be open to the future.

Our students continue to amaze me. We're seeing increasing demand as word gets out about how exciting Jefferson is. As a result, I believe we have to keep transforming. We have to ensure their paths to success are rich and meaningful.

I hope you'll see how much news we can barely fit into this issue of *Innovator* magazine. These are real accomplishments in preparing our students through curricular and co-curricular innovations.

At Jefferson, we elevated innovation and creativity to be among the highest priorities of the institution. In our curricula across the University, we're working to ensure students appreciate creativity itself as they prepare for the future of work.

Indeed, creativity is the core of our vision. We see it in the strength we derive from our Philadelphia University/Textile legacy.

We built on that legacy when we merged these two professional universities to create the professional university of the future. And as we go forward, the power of the Philadelphia University/Textile legacy also will be seen in our Philadelphia University Honors Institute.

A good example of innovation combined with teaching is our relationship with Ecofibre Ltd and its subsidiary Hemp Black (pictured above). Based on the textiles research of Mark Sunderland '84, M'06, Hemp Black is developing sustainable hemp technology, including textiles that can conduct health data—the ultimate wearables.

Thanks to Ron Kander, PhD, dean of Kanbar College of Design, Engineering and Commerce, the project has helped multiple students across the University over the past 24 months. The Hemp Black project has involved 35 students from 16 disciplines and four colleges—it touches all elements of the University, from academics to product development to new vistas for health and performance. Our own engineering and textile product science students found new

properties for hemp, which is a far more sustainable alternative than cotton. Our textile and industrial design students created unique designs for the fiber, in concert with the engineers. Our business and fashion merchandising and management students are creating a U.S.-based supply chain. And our health and science students are testing properties such as repelling bugs and preventing bacterial growth. Truly an interdisciplinary project consistent with our vision to prepare students for the future.

Enjoy this issue of *Innovator*. Be proud of your University and of the students who will bring their creativity and innovation to the future. Without question, our faculty and students are building the University of the future—with creativity and innovation at its heart.


STEPHEN K. KLASKO, MD, MBA
President, Thomas Jefferson University



What's Happening at Jefferson?

NEW ATHLETE HEALTH ORGANIZATION KEEPS STUDENT ATHLETES IN THE GAME FOR LIFE

The Athlete Health Organization (AHO) of Thomas Jefferson University, which provides health screenings to student-athletes in underserved areas, is now a program under Jefferson's **DEPARTMENT OF FAMILY AND COMMUNITY MEDICINE**. Through this collaboration, the AHO of Jefferson will continue to provide all levels of youth athletes and communities with free medical screenings, innovative population-based solutions and educational programs. To date, AHO has provided more than 10,000 free, comprehensive sports physicals.

BLIND ALUMNUS SEEKS TO IMPROVE ACCESSIBILITY

MATTHEW "NICK" GOMBERG M'19 has been blind since birth. He's also a **USER EXPERIENCE AND INTERACTION DESIGN** alumnus forging his own path to improve accessibility with the help of mentor and **director of the MS in UX and interaction design NEIL HARNER**. "I view this as a way to bridge the gap of information between sighted and blind people," says Gomberg. "We have to figure out how we can have a balance between making it look cool for sighted people while keeping it accessible. I want to provide this perspective to as many developers, designers and people as I can."

ARCHITECTURE STUDENTS WIN FIRST PLACE IN DEPARTMENT OF ENERGY COMPETITION

A team of **ARCHITECTURE STUDENTS** earned first place in the Department of Energy's Solar Decathlon in Colorado for its neighborhood-focused and environmentally conscious "Geode" building concept in the Sharswood section of Philadelphia (pictured above). Tasked with designing a highly efficient and innovative structure powered by renewable energy, the group, **KYLE CHANG, ZANE COLVILLE, DENIS COSTELLO, SAM HORCHOWSKI, ERIN RAUP, JESS SCHELL** and **DEREK SIBINGA**, topped 45 finalist teams. The team adapted the building's geometry for passive heating and cooling, developed an airtight and high thermal performance envelope, designed an efficient air conditioning strategy and facilitated renewable energy generation.

GUEST SPEAKER DISCUSSES CONTEMPORARY FAMILIES AND EVOLVING LEGAL RECOGNITION IN LECTURE

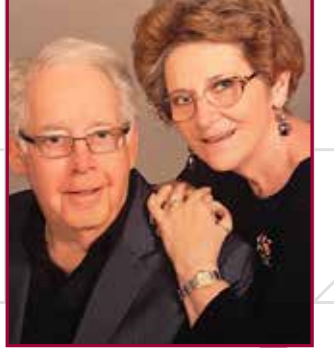
As part of Jefferson's Dietrich V. Asten Lecture Series, **TIFFANY PALMER, ESQ.**, addressed contemporary families and evolving legal recognition during Jefferson's **UNITY WEEK**. Palmer, director of the Family Law Institute of the National LGBT Bar Association, encouraged the University community to continue to offer LGBTQ-relevant programming and courses and to include gender identity in all non-discrimination statements and policies, as well as other standards to be an ally to the LGBTQ community.

AT POP-UP EVENT OT STUDENTS SUPPORT AUTISM COMMUNITY

Green smoothies—dubbed "Groothies"—were served with a smile by young adults with autism, along with the help of Jefferson's **OCCUPATIONAL THERAPY STUDENTS** as part of a pop-up event in partnership with St. Joseph's Kinney Center for Autism Education and Support on a sunny afternoon last spring. Donations collected went toward **DR. ROSEANN SCHAAF'S Eagles Autism Challenge** team, where Dr. Schaaf—an OT professor and prominent autism researcher—was one of four researchers at Jefferson whose projects were selected to receive funding from last year's event.

ALUMNUS ESTABLISHES SCHOLARSHIP FOR STUDY ABROAD

ROBERT "BOB" LOCKYER '68 and his wife, **CAROL**, have established the **LOCKYER GLOBAL PASSPORT SCHOLARSHIP** with a significant gift. The scholarship will provide financial aid-based grants to students at the College of Architecture and the Built Environment who are embarking on study abroad programs. "Giving kids an opportunity to study abroad can only expand their minds related to their field," says Bob Lockyer. Over the years, the Lockyers have supported a range of university initiatives. In 2001, Bob initiated a successful annual golf outing to benefit the athletic program at the university. Bob says he hopes this latest gift will help "move the needle" in global understanding and education.



EVENT EXPLORES CREATING INCLUSIVE SMART AND HEALTHY CITIES

The interrelationships of urbanization, technological innovation, demographic trends and population health fused at the Philadelphia Fellowship on Inclusion and Equity Symposium and **SMART AND HEALTHY CITIES FORUM**. "Smart cities are a new paradigm in the development of urban areas," says **BARBARA KLINKHAMMER, dean of the College of Architecture and the Built Environment**. Renowned urbanist Richard Florida, PhD, and recipient of the inaugural Philadelphia Fellowship, delivered the keynote, "The Case for Inclusive Prosperity in Philadelphia."

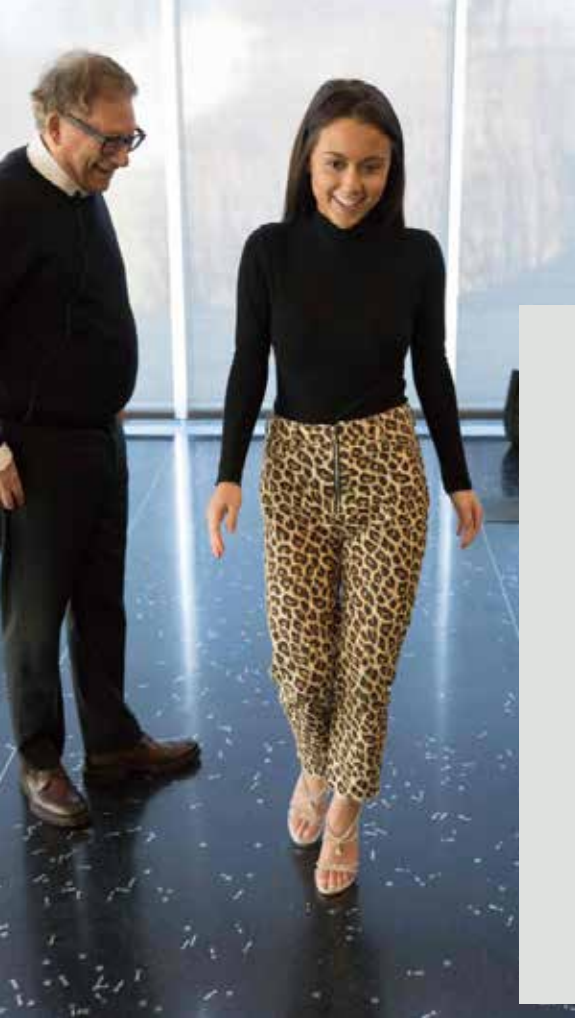
ID STUDENTS TEACH STEAM PRINCIPLES IN ROLLER COASTER OUTREACH PROJECT

With the help of student mentors from the **BS IN INDUSTRIAL DESIGN PROGRAM**, a dozen elementary school students from St. Mary Interparochial School created fully functioning mini-rollercoasters. Five industrial design students volunteered at the school's science, technology, engineering, art and mathematics (STEAM) afterschool program, teaching the basics of physics and best practices for coaster foundation, structure and track placement.



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LEGENDARY SHOE DESIGNER STUART WEITZMAN RECOUNTS SECRETS OF HIS SUCCESS

Renowned designer and entrepreneur **STUART WEITZMAN**—who received Jefferson’s **2018 SPIRIT OF DESIGN AWARD**—visited Jefferson fashion students, prospective students and faculty on the East Falls campus for a lecture where he offered thoughts on his illustrious career, as well as advice on what it takes to stand out in an already saturated, competitive industry. The fashion icon then toured the campus, visiting a **FASHION DESIGN RESEARCH CLASS**, the **INDUSTRIAL DESIGN STUDIO** and the **FASHION AND TEXTILES FUTURES CENTER**.

JEFFERSON GIVING DAY CELEBRATES GENEROSITY OF UNIVERSITY COMMUNITY

The Jefferson community came together in a new 24-hour fundraising event: Jefferson Giving Day. A total of **3,021 ALUMNI, FACULTY, STAFF, PATIENTS, STUDENTS, FAMILY AND FRIENDS** came together to celebrate philanthropy and its impact by raising **\$400,212** in support of patient care, research, scholarships and more. Of that number, 39 percent of total funds raised were designated to the University, with four percent going specifically to scholarships.

THE SHOE FITS FOR INDUSTRIAL DESIGN STUDENT

ELENA KRUPICKA ’20, industrial design student, won the **PENSOLE WORLD SNEAKER CHAMPIONSHIP** for her shoe design that connects the natural world to the urban runner. Along with earning the \$10,000 prize, she will work with competition sponsors Puma and Foot Locker to have her design manufactured and sold at select locations in 2021.

“This honor exemplifies Jefferson’s emphasis on developing professionals capable of producing innovative, manufacturable and market-ready product designs,” says Todd Kramer, associate dean of the School of Design and Engineering. “Elena’s win truly showcases our students’ ability to adapt the technical and industry-facing lessons learned through the industrial design program.”

JEFFERSON PROGRAMS RANKED AMONG TOP BY DESIGNINTELLIGENCE AND ARCHITECTURAL DIGEST

INTERIOR DESIGN, INTERIOR ARCHITECTURE, ARCHITECTURE and **LANDSCAPE ARCHITECTURE** were recognized by *DesignIntelligence* in their annual rankings. Interior design made the top 10 in seven focus categories, more than doubling representation from last year. Our interior architecture program earned a top 10 spot for sustainable built environments/adaptive design/resilient design. *Architectural Digest* recently ranked our interior design program as one of the 15 best interior design schools in the nation. The magazine highlighted the fact that the program “offers a functional and technical education peppered with interdisciplinary courses on topics such as human behavior, sustainable design, construction detailing, building systems and more.”

JEFF BRUNER MATERIALS CHARACTERIZATION LABORATORY TO OPEN THIS SPRING

The centerpiece of Jefferson’s textiles program, the Grundy Materials Evaluation Laboratory, soon will have a new name and home. Thanks to the support of noted textile design alumnus **JEFF BRUNER ’73**, the **JEFF BRUNER MATERIALS CHARACTERIZATION LABORATORY** will open in the state-of-the-art Kay and Harold Ronson Health and Applied Science Center this spring. “This lab will ignite innovative ideas and help turn them into real-world solutions,” says Michael Leonard, academic dean of the Kanbar College School of Design and Engineering.

LAVINIA BIAGIOTTI CIGNA PRESENTS JEFFERSON PHILADELPHIA UNIVERSITY HONORS LECTURE

Famed Italian fashion designer **LAVINIA BIAGIOTTI CIGNA** has visited colleges around the world, but after spending a day at Jefferson, she knew the University offered its students something special. “You’re *really* lucky to be here,” Cigna told students, as well as faculty and University leadership. “You’re really privileged.”

Following a tour of the Fashion and Textiles Futures Center and lunch with students, the president and CEO of Biagiotti Group discussed her career path and shared advice to aspiring designers in the Philadelphia University Honors Lecture presented by the **JEFFERSON CENTER FOR GLOBAL ENGAGEMENT**.

JEFFERSON RECEIVES SECOND LARGEST GIFT IN INSTITUTION’S HISTORY, PAVING THE WAY FOR NEW BIOMEDICAL RESEARCH BUILDING

Thomas Jefferson University has received a **\$70 MILLION GIFT FROM SIDNEY AND CAROLINE KIMMEL**, which will significantly advance research at the University. The **CAROLINE KIMMEL BIOMEDICAL RESEARCH BUILDING** will be a home for big ideas, providing Jefferson scientists with leading-edge technology and laboratories.

“This gift will have a profound and lasting impact on Jefferson’s ability to further pursue scientific discovery,” said Mark Tykocinski, MD, provost and executive vice president for academic affairs and the Anthony F. and Gertrude M. DePalma dean, Sidney Kimmel Medical College at Thomas Jefferson University. “The Caroline Kimmel Biomedical Research Building will serve as a magnet for scientific talent and will bolster our status as an R2 National Research University.”

FIRMS CONDUCT RECORD NUMBER OF INTERVIEWS AT DESIGN EXPO

Nearly 100 leading design firms conducted a record 1,150-plus interviews at the University’s annual **DESIGN EXPO**. The event allowed more than 350 sophomore, junior and senior design students, fourth and fifth-year architecture students, and graduate students to discuss internships and full-time positions. “It’s a great place to improve your conversation and interview skills with professionals,” says **INDUSTRIAL DESIGN ALUMNUS JOHN CECIL ’19**.

KIM DOUGLAS WINS ASLA COMMUNITY SERVICE AWARD

KIM DOUGLAS, director of the landscape architecture program and Jefferson’s Lab for Urban + Social Innovation (LUSI), was awarded the American Society of Landscape Architects’ (ASLA) 2019 Community Service Award. ASLA notes Douglas’ thoughtful commitment to inclusive design—exemplified by her work in projects like Park in a Truck—drives community growth and engagement, all while promoting new leaders in the environmental design field.





JEFFERSON NAMED A TOP GRAPHIC DESIGN SCHOOL BY GDUSA

For the eighth year in a row, GDUSA magazine has recognized Jefferson as a top graphic design school. “Jefferson’s **GRAPHIC DESIGN COMMUNICATION** curriculum fosters an appreciation for design as a cultural craft with a relevant historical background and a rapidly evolving future that includes multiple disciplines,” says program director **BETH SHIRRELL**. “The program seeks to develop students who can contribute intelligently and responsibly at a global level to further the common good.”

*GDUSA magazine named graphic design communication alumnus **Stephen Andreo '19** one of its Students to Watch. Pictured here is his Ology project.*

THROUGH HEALTH MENTORS PROGRAM STUDENTS SEEK TO IMPROVE BUS SEATING

For seniors and people with disabilities and chronic conditions, finding a seat on a crowded bus can be an arduous task. **PHYSICAL THERAPY** student **JENNIFER COVIELLO D’20** and **SIDNEY KIMMEL MEDICAL COLLEGE** students **KATE HASKINS** and **ERIK MASSENZIO**, with the support of SEPTA, hope to change the narrative. Through the **HEALTH MENTORS PROGRAM**, interprofessional teams of students met with a community member with a chronic condition to learn about their life and needs, and eventually, work on an advocacy project. Students worked alongside a mentor with osteoarthritis, formally pitching a poster and social media campaign to improve seating accessibility to SEPTA’s administrative board.

JEFFERSON UNDERGRADS ACHIEVE 95 PERCENT EMPLOYMENT AND GRAD SCHOOL SUCCESS RATE

According to the Class of 2018 First Destination Report from the University’s **MARIANNE ABLE CAREER SERVICES CENTER**, Thomas Jefferson University alumni from the undergraduate class of 2018 have achieved an impressive employment and graduate school success rate of 95 percent. Majors housed in the **COLLEGE OF HEALTH PROFESSIONS, COLLEGE OF HUMANITIES AND SCIENCES** and **COLLEGE OF LIFE SCIENCES** surpassed the already impressive results, with a 99 percent employment and grad school success rate.

FROM CONSIDERABLE NEEDS TO EXCEPTIONAL SUCCESS

Facing declining enrollment, a bare-bones budget and intense competition from charter and private schools, Philadelphia’s Southwark School had an extensive list of needs. Six years later, it stands as a model thanks to hardworking teachers and creative community partners like **DR. SARA CORSE** from the **DEPARTMENT OF COUNSELING AND BEHAVIORAL HEALTH**. Corse began providing resources like the master’s-level **COUPLE AND FAMILY THERAPY STUDENTS** from Jefferson who counsel Southwark students and lead anti-bullying initiatives.

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REAL-WORLD EXPERIENCE PROPELS DISASTER MANAGEMENT AND MEDICINE PROGRAM

Students enrolled in the **MS IN DISASTER MANAGEMENT AND MEDICINE** program complete a minimum of 100 hours of experiential learning, a defining factor that propelled OnlineMasters.com to name it one of the best online master’s in emergency management programs in the nation. “It helped me to clarify concepts and to understand how emergency management works in real life. It was truly an enriching and knowledge-filled experience,” says alumna **CRISTINA PAREJA M’18**.

FASHION COLLABORATION HAS ALL THE RIGHT MOVES

For the first time, Thomas Jefferson University **FASHION DESIGN STUDENTS** —led by professor **DARCY MARCANTONIO** —partnered with **THE PENNSYLVANIA BALLET** to design costumes for its production of “Celtic Fire” and the corresponding Dress the Dance Costume Competition. “Everything was so beautiful on stage,” said the first-place and people’s choice winner, fashion design student **ROBIN SKODI ’20**. “It was completely different than just seeing my design on the form or on them in the studio. It just changed everything.”

PROGRAM OFFERS PATIENT COMPANIONSHIP, IMPARTS EMPATHY ON STUDENTS

When patients are alone in the final moments of their lives, volunteers for Jefferson’s **NO ONE DIES ALONE (NODA)** program do everything in their power to surround them with the companionship and compassion they deserve. Volunteers take turns spending time with terminally ill patients, offering support by reading books, playing music or simply sitting with the patient. “Sometimes the simplest thing you can do for someone is to be with them,” says **DAVID NEY D’22**, a student at **SIDNEY KIMMEL MEDICAL COLLEGE**. “That’s a lesson I hope to keep with me throughout my career.”

A CELEBRATION OF COMPASSION, TOLERANCE AND DIVERSITY

Symbols of trust, hope, respect, rebirth, enlightenment, peace and harmony radiate from **KANBAR COLLEGE OF DESIGN, ENGINEERING AND COMMERCE** faculty member **RASHIDAH SALAM**’s new mural at South Philly’s St. Thomas Aquinas Catholic Church and the Aquinas Center. The mural, which Salam worked on for more than a year and titled “Dare to Understand,” spreads a message of “the continuing appreciation of diversity.” The project was made possible with the help of the community, **MURAL ARTS PHILADELPHIA**, Interfaith Philadelphia and the National Endowment for the Arts.





DEFINING THE FUTURE *of* LEARNING *and* WORK

By Merrill Meadow

How well are institutions
of higher education preparing their
graduates for the realities of work
in the 21st century?

Let's begin with a quick history lesson: In the 19th and 20th centuries, Americans experienced one of the most dynamic economic shifts in human history.

This economic earthquake started with the introduction of mechanization and mass production of goods in the mid-1800s. It continued for 15 decades, propelled by a continuous flow of new technologies that ultimately gave us today's high standard of living.

New technology also drove a sea of change in how people earned their living. In 1910, roughly half of all workers in the United States were employed either on farms, as physical laborers, or as private-household workers such as maids, cooks and gardeners; just 5 percent worked in professional and technical roles. By 2000, those numbers had more than reversed: About 7 percent of jobholders worked on farms, in private households or as physical laborers; 75 percent worked in "white collar" jobs.

During the 150-year transition, whole categories of jobs disappeared—from those that had existed for centuries (including ice-cutters, farriers and typesetters) to those that came and went in the 20th century, such as elevator operators, telephone switchboard operators and VCR repair people. On the other hand, vast opportunities blossomed, especially for those who worked with information, ideas, services and technologies—including healthcare professionals, engineers and designers.

Today, we are poised on the cusp of another major, machine-driven shift—one that is redefining "work" for millions of people throughout the 21st century.

Consider these predictions for the next decade: By 2030, automation, artificial intelligence and machine learning may force 32 percent of the American workforce—that is, 54 million people—to find new jobs. Globally, an estimated 60 percent of current jobs involve a substantial subset of activities that could be taken over by "intelligent automation." In all, at least 30 percent of the hours worked today could disappear or be transferred to jobs that do not yet exist. Going even further, a report by the Institute for the Future and Dell Technologies predicts that roughly 85 percent of the jobs that will exist in 2030 haven't been invented yet. And those shifts have begun: 80 percent of U.S. CEOs say that artificial intelligence will significantly change the way their organizations do business over the next five years.

Bottom line: The next big transition in the world of work won't take a leisurely 150 years to play out. It's happening now—and fast.

There are two big differences between what previous generations experienced and what's coming down the pike for us, says Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and an ardent student of economic change and organizational innovation. The integration of intelligent machines into the workplace will occur over one or two decades, not a century. And the changes it spurs will be exacerbated by the breakdown of geographic and professional distinctions that has already begun.

“The borders between professions and disciplines are blurring, as are the separations between national labor markets,” Dr. Klasko explains. “Increasingly, competitors will come from anywhere. The best workers, products and ideas will win out, regardless of their origins and educational backgrounds. And regardless of whether those ‘workers’ are humans or machines.”

The quickly evolving nature of work in the 21st century has already put a premium on a set of skills that were undervalued in the 20th century workplace—a set dubbed “human skills.” A recent study of how U.S. employment skills evolved from 2004 to 2016 found that 56 percent of jobs required more high-level creativity, 47 percent required more complex reasoning, 36 percent required more social/emotional skills and 33 percent required more communication skills. In addition, virtually all professional jobs today also require digital fluency, a basic comfort and capacity with digitally based systems. This skill set enables employees to handle change and new challenges more effectively, to collaborate across cultures and professions, and to be more innovative in addressing opportunities and problems. Notably, they also enable people to partner with and augment intelligent machines, rather than be replaced by them.

Along with a need for strong human skills, the future of work will demand a new approach to learning. The Institute for the Future projects that by 2030, “The pace of change will be so rapid that people will learn ‘in-the-moment’ using new technologies such as augmented reality and virtual reality.” The Institute’s conclusion: “The ability to gain new knowledge will be more valuable than the knowledge itself.”

No wonder, then, that organizations across all sectors—commercial, not-for-profit and governmental—want to recruit people with strong human skills and the capacity for continuous learning. The problem is that there aren’t enough of them.

Which prompts this question: **How well are institutions of higher education preparing their graduates for the realities of work in the 21st century?**

In general, not so well, argues future-of-work strategist Heather E. McGowan. She helps organizations evolve from their last-century incarnations into ones whose employees will enable them to succeed in a massively digital, global economy. (Full disclosure: McGowan also works with academic institutions and helped design Philadelphia University’s Nexus Learning approach, as well as architecting the core curriculum for the Kanbar College of Design, Engineering and Commerce. Now, post-merger, it is a critical part of the Jefferson academic experience.) “These organizations are trying to prepare for the integration of digital technology and human knowledge work,” McGowan explains. “They are shifting from valuing static knowledge and expertise to valuing people who can work with dynamic information flows—creating new knowledge and new value in the midst of change.

“But most of U.S. higher education is stuck in 20th century paradigms, where rote learning and good grades ensured good jobs,” McGowan laments. “Most colleges continue to ask people whose brains are still developing to make career-defining decisions—then channel those students into narrow learning tracks that provide today’s knowledge. What they are not doing is empowering those students to respond constructively to change and to obtain the knowledge they’ll need for all their tomorrows.

“Higher education must start helping students create a ‘knowledge foundation’ that includes both profession-specific expertise and the platform for future self-directed learning.” Such a foundation, McGowan says, should comprise capacities such as learning agility and adaptability; problem solving and judgment; creativity and divergent thinking; leadership, communication and collaboration; and social/emotional skills such as empathy and self-awareness. “We shouldn’t be taking students deep into technical training without creating the underlying ‘human operating system’ that prepares them for continuous learning in a rapidly changing environment.”

Why is that so important? “Those are exactly the kinds of skills that enable people to be successful in today’s work environment,” says Janice Maiden ’81, senior vice president of Systems Protection and Powertrain Human Resources for global automotive systems manufacturer Tenneco. “And they will be even more essential in years to come.

“Our company specifically recruits people who can work in a collaborative, team-based culture; who are confident in their own skills and comfortable with what others bring to the table; who like solving problems and using out-of-the-box thinking; and who are able to communicate their ideas effectively,” Maiden says. “Of course, we’re looking for strong profession-specific knowledge. But ***we need to see those core ‘human skills’—whether we’re recruiting for engineering or sales, finance or design, IT or HR. It’s those skills that enable recruits to bring us value right from the start.***”

Business leaders around the world echo Maiden’s perspective. They want to see colleges and universities get much better at giving their graduates this mix of skills. But higher education changes slowly. Many institutions are only inching toward curriculums that integrate human skills and digital fluency with professional knowledge. They are tackling individual pieces of the puzzle, not taking a comprehensive approach.

In contrast, Jefferson has undertaken a comprehensive strategy to enable graduates to succeed in the evolving future of work. “Steve Klasko and I believe that our economy and society are at a major inflection point, and that universities must be aggressive in preparing students for both the near- and long-term implications,” says Mark L. Tykocinski, MD, the University’s provost, executive vice president and the Anthony F. and Gertrude M. DePalma dean of Sidney Kimmel Medical College. “We are determined that Jefferson graduates be prepared to have long, fruitful careers—ready to ride the crest of the waves of change, for decades to come.”

The University’s strategy addresses four realities of the evolving workplace. First, that anything a machine can do better than a human, a machine will be employed to

do. (It’s how industrialized, free market economies work.) Second, that the people we engage with professionally are increasingly diverse—geographically, culturally and intellectually. Third, that many of the challenges we face and objectives we pursue will be new and complex, and not subject to simple or well-worn solutions. Fourth, that adapting to the first three—and to continuing change in the world around us—requires that we become life-long learners able to curate our own ongoing education.

“Jefferson is addressing these realities, in part, by helping graduates bring to bear the abilities that people uniquely possess, which machines cannot replicate,” Dr. Tykocinski explains. “Put differently, we are making a distinction between knowledge—which

is an assemblage of information—and wisdom, which is a uniquely human way of interpreting and applying information. To that end, we are teaching students—whether they are preparing to be engineers, designers, nurses or policymakers—to leverage their creativity, intuition, communication abilities and social awareness. And we are fostering their ability to teach themselves, to engage in life-long learning, and thus be ready to embrace new technologies, environments and professional challenges.”

Key to life-long learning in the 21st century is a capacity called digital fluency: the ability to learn and operate effectively in a digitally based economy and work environment. “Digital fluency goes far beyond the ability to use the latest software program or piece of

technology,” Dr. Tykocinski explains. “It is a fundamental understanding of the ‘thinking’ that drives the machines we use—an awareness of how they work and what they are capable of doing.” Parallel to Jefferson’s integration of Design Thinking concepts into non-design academic programs—for example, bringing human-centered design skills into medical education—the University is working to give all students a level of digital fluency appropriate to their discipline and career goals. “In practical terms, digital fluency is contextual,” Dr. Tykocinski says. “You are fluent when you understand the digitally based information and processes that are necessary for success in your profession. And our goal is that every graduate will possess the intellectual tools needed to maintain digital fluency as self-directed learners.”



THINKING DIGITALLY

“When we say ‘Digital Fluency,’ we are talking about a continuum of ways-of-thinking—and types of knowledge—about how digital machines function and what they can do for us,” explains Ronald Kander, PhD, dean of Kanbar College of Design, Engineering and Commerce. “But since all digital functions begin with human-originated ideas and are built around the ways that humans perceive and analyze information, gaining digital fluency can be viewed simply as understanding how machines leverage human thinking.” Thus, says Dr. Kander, digital fluency comprises the following kinds of thinking:

Algorithmic Thinking—Just as everything we humans do is based on algorithms (in other words: step-by-step approaches) that we have consciously or unconsciously internalized in our brains, algorithms are the basis for software applications. By learning how algorithms are created, we can better understand how applications are built, how they function and how best to interact with the technologies they drive.

Computational Thinking—This is the basis for computer-based problem solving across all disciplines, from the humanities to the sciences. It involves breaking down

data or problems into manageable parts; observing patterns and trends in data; then identifying general principles that explain the patterns and trends.

Applied Analytic Thinking and Visual Thinking—These are digital methods used to apply the results of Algorithmic and Computational Thinking to address practical challenges and opportunities. They are used in many disciplines and professions, for purposes ranging from scientific and engineering models and simulations to business intelligence and decision support.

New and enhanced curricula addressing these ways-of-thinking-digitally are being introduced in a variety of Jefferson academic programs. These include a new undergraduate engineering track in applied computing (including modeling and simulation), and courses such as introduction to computing, systems-thinking and business analytics. And, to build long-term capacity in these areas, academic leaders have proposed adding several new computation-focused faculty positions, to be spread among multiple schools and departments.

Jefferson's future-focused strategy is being woven into virtually every facet of the institution. If it has a cornerstone, however, it may be *The Hallmarks Program for General Education*, a unique undergraduate core curriculum for students in all four-year programs.

"The Hallmarks Core is a sequence of 14 courses that builds eight specific skills. We call them the 'power skills,'" says Tom Schrand, PhD, professor of history and associate dean for general education, "because they individually and collectively empower our graduates to excel."

These "power skills" were identified through a series of design thinking exercises that brought faculty from across the University together to define what capabilities their

students, regardless of major, would need to thrive in the 21st century global economy. The curriculum features themes such as ethical reasoning, american diversity and global citizenship. "Spread over the undergraduate years, the Hallmarks Core courses build targeted skills in competencies such as empathy and initiative while contributing to a broader understanding of the world," Dr. Schrand says.

A novel facet of the program is the *Hallmarks Folio*, personal e-portfolios that students create as they move through the program. "The Folio is a dynamic record of a student's growing mastery of the learning goals for each skill," Dr. Schrand notes. Because these skills were selected and defined by faculty from multiple programs, students can populate their Folios with

relevant work from their majors as well as from the Hallmarks Core. The universality of these skills is key, according to Dr. Schrand. "When students approach the same skills from different disciplines, they begin to appreciate their relevance and leverage in a variety of professional and real-world contexts."

The program gives each Jefferson graduate a competitive advantage with employers, Dr. Schrand believes, "because it both broadens students' core knowledge and enhances their ability to keep learning and responding constructively to the constantly evolving challenges of the workplace. That combination is very attractive to employers, across sectors and professions."



MARIE MARINO, EdD, RN, is a big fan of *Hallmarks*. One of her top priorities as dean of the Jefferson College of Nursing is fine-tuning the college's academic programs to reflect the changing landscape of medicine and health care delivery. And Dr. Marino's team is integrating key facets of the Hallmarks' "power skills" and portfolio process into the traditional and accelerated BSN-completion programs. "We want our students to develop and trust their intuition, their creativity and problem-solving ability, and their capacity to anticipate and respond constructively to change," she says. "Those skills—matched with a solid base of technical knowledge and broad, hands-on experience—will enable them to thrive in very dynamic environments."

Over the next decade, A.I. will reshape aspects of nurses' already multifaceted roles. "But nurses also must be ready to respond to other kinds of change," Marino points out. For example, nurses are increasingly working outside of hospital acute-care settings. So the College has been giving students substantive experience in transitional care and community-based settings, such as rehabilitation centers, elderly care facilities and church-based clinics. It is also increasing curriculum that prepares nurses to lead interdisciplinary care-delivery teams. "Nurses need to understand how to lead, formally and informally," Dr. Marino explains. "So we are emphasizing skills such as assertiveness, delegation, empowerment and advocacy—as well as written and oral communication."



A new report from the Society for Human Resources Management

confirmed organizations of all stripes are increasingly engaging international work teams; and, in building those teams, they prize individuals with global perspectives, comfort with cultural differences and strong communication abilities.

The Hallmarks' undergraduate coursework on global perspectives is but one element of the University's effort to graduate students ready to be global citizens and compete for jobs internationally. Those initiatives go far beyond the coursework offered in Philadelphia. During the past several years, Jefferson has created global centers in Italy, Israel, India and Japan, focusing on education, research and professional development in fields ranging from medicine to fashion. In 2018,

it launched the world's first dual medical degree—offering certification in both the U.S. and the European Union—and is pursuing similar agreements in architecture, design and other fields.

These efforts mark the beginning of a long-term initiative to introduce Jefferson students to the world—and introduce the world to Jefferson's academic and research programs. ***"We have been creating an international coalition of academic institutions who are rethinking how professional education is organized, delivered and regulated,"*** Dr. Tykocinski explains. "In the process, we are helping our graduates become comfortable with other nations' cultures and professional systems, and enabling them to practice their professions unconstrained by national licensure issues and other artificial barriers."

GAINING THE SKILLS TO SUCCEED

NICHOLAS FRANCHI '21, a student in the law and society program, came to Jefferson with the goal of preparing for law school and a career in corporate law. His undergraduate experience has reinforced the plan for law school and given him a larger sense of the paths available in the multifaceted legal profession. It's also helping him acquire the skills he'll need to succeed.

"Last spring, I interned with the State Attorney General's office, in its Bureau of Consumer Protection," Franchi recalls. It was an eye-opening experience in many respects. "Going in, I didn't know much about the work they did, and I learned a lot. But I was particularly struck by how much effort their staff put into dealing with the individuals who came to the Bureau for help. Their 'people' skills were the most important skills they used."

Franchi came to college with pretty strong people skills, himself—based on a natural gregariousness, and honed through experience working as a golf caddie during summers and weekends. But his Hallmarks Program courses have expanded those skills and broadened his view of the world around him. "Our courses on global perspectives and human rights were really significant to me," he explains. "I grew up in a small community and went to a small high school, so I was a little sheltered in the range of ideas I was exposed to. Today, though, I really understand why it's so important to hear others' ideas and opinions; to ask rational questions and discuss differing views in calm terms. I've also learned to evaluate my own ideas more critically and analytically."

Franchi's studies have helped him develop yet another set of skills that will be essential for success in a law career: "Hallmarks has enabled me to improve my writing. I can communicate thoughts more clearly, develop ideas in a way that readers can easily understand, and pull together information to make an effective argument. When I compare work from my freshman year with my writing now, the differences are very apparent."

The innovative approach and entrepreneurial spirit reflected in Jefferson's global initiatives are, themselves, emblematic of a skill set that employers around the world increasingly seek: creativity, the ability to approach challenges in new ways, identify new opportunities and find solutions in unexpected places. "Intelligent machines will always have the advantage at crunching raw data to find answers," Dr. Tykocinski notes. "But it takes humans to ask questions worth answering, and creativity is an essential spark for the best questions."

The need for these kinds of skills applies not just to the traditionally creative professions—artists, designers and architects, for example—but to those ranging from business and policymaking to occupational therapy and biomedical research. The Health Design Lab is an example of the novel ways that Jefferson is bringing creativity and innovation—and the asking of great questions—into the core of its education programs. The Lab has integrated "design thinking" concepts and multidisciplinary partnerships into a four-year medical school course that nurtures

future physicians' ability to ask insightful questions and point out novel problems—and then engage in creative collaborations that lead to effective answers. In design-centered scholarly inquiry projects, students work with patients, designers, engineers and other professionals to identify and research specific medical-care challenges, propose and test solution concepts, create prototypes, and pitch their ideas to healthcare leaders and entrepreneurs.

"There are two principles underlying our scholarly inquiry in design," explains Kristy Shine, MD, PhD, assistant professor of emergency medicine and director of education/research for the Health Design Lab. "First, we want students to learn to use a human-centered approach, placing people's needs and perspectives at the center of the problem-solving process rather than starting with a business proposition or market opportunity. Products and processes need to be technically feasible and financially viable, but if they are not desirable to the 'end users'—the doctors and patients interacting with them—they may ultimately fail.

"Second, we want students to experience—and come to value—creativity and collaboration across fields, disciplines and professions. Real-world health challenges are complex and multifaceted. Few can be solved by a single individual with a narrow band of knowledge. Providing our future doctors with the skills to think outside of the box, seek partnerships and work effectively in teams with other experts, including patients, can lead to the development of better health care solutions."

The scholarly inquiry in design is one facet of an institution-wide initiative to bringing creativity and innovation into every student's educational experience. Indeed, the University is now implementing a two-year creativity-focused curriculum, which will be required for every student.

"Creativity and innovation are fundamental skill sets that can be applied across professions, communities, environments and problems," says Dr. Klasko. "With each passing year, more employers are looking for professionals with these skill sets, and we want our graduates to leverage those skills throughout their careers."



BEYOND INTEGRATING CREATIVITY AND INNOVATION into every Jefferson student's experience, the University is changing the way the "creative" professions approach their roles. "Today, we are training graphic designers to move beyond individual design solutions—and to strive instead to design objects as parts of larger, complicated systems. We do this by placing emphasis on research and process. This allows students to see communication products not as ends to themselves but as elements of broad strategies that address complex needs and create tangible value," says Beth Shirrell, assistant professor and director of the graphic design communication program. The program gives graduates the ability to both think and make critical decisions, balancing cutting edge technical skills—like developing virtual reality experiences or utilizing advanced data visualization techniques—with the human skills necessary to touch their audiences' hearts and minds.

Another integral aspect of the educational experience is ensuring that students can

connect with each other. "Our coursework emphasizes collaborations," Shirrell explains, "because to succeed in the evolving workplace, graphic designers must be equipped to build connections across disciplines and benefit from other kinds of knowledge and skill."

One recent course project—the 1889 Jefferson Center for Population Health collaboration—reflected many of the program's most significant elements: It challenged teams of graphic design students to develop a multiple-component design system to help residents in western Pennsylvania with the prevention and management of type 2 diabetes. After connecting with third-year student pharmacists to better understand the disease, the design teams created a comprehensive array of solutions, including a mobile produce truck to empower residents to improve their quality of life through healthy eating habits, collaborating with local farmers and creating a sense of community.

Preparing designers to be multifaceted problem-solvers—not just creators of beautiful and functional products—motivates Kimberlee Douglas, M.Land.Arch., associate professor and the Anton Germinshuzen Stantec Term Chair in Landscape Architecture. She is guiding her students in the development of **PARK IN A TRUCK**, a series of small nature parks created in vacant lots in low-income neighborhoods (*pictured above*). "The project's objective is to enable children to live close by a green space—and in the process, to create a verdant necklace running throughout the city's most economically depressed communities," Douglas explains. Her students engage in classroom learning, field research, multifaceted problem-solving, deep interactions with neighborhood residents and, ultimately, the creation of designs that address an array of community needs. Through complex, real-world projects like Park in a Truck, Douglas's students hone high-level technical skills, while developing an all-important human skill set.

Creativity and innovation

are fundamental skill sets that can be applied across

professions, communities, environments and problems.

— STEPHEN K. KLASKO, MD, MBA

Enabling students to engage with real-world challenges is fundamental to Jefferson's strategy on the future of work. It is the guiding idea for Nexus Learning, the pioneering and award-winning pedagogical approach the University initiated a decade ago and has continuously refined to reflect the changing workplace. The approach grows from the principle that higher education must be a mix of theoretical and practical, learning and doing, gathering knowledge—from the liberal arts to the sciences—then applying it through concrete skills. Curriculum-based activities are one way Jefferson students get exposure to real-world professional practice. Another way is through student participation in faculty-guided research; they are working on projects that range from basic bench research in biology and chemistry to the development of functional and "smart" fabrics to studies on new ways of creating and using light.

There are an array of competitions that spur students to tackle concrete challenges and present their solutions to practicing professionals and industry groups. Tenneco executive Jan Maiden—collaborating with Michael Leonard, academic dean of the School of Design and Engineering—created and fostered one of the longest-running of those competitions. "The Tenneco and Jefferson Innovation Competition is designed to encourage Jefferson students to collaborate in conceiving and prototyping innovative solutions to practical challenges that industry faces," Maiden explains. "Over the years, it has boosted the careers of many

young designers and engineers. And our company has hired many innovative and entrepreneurial-minded Jefferson graduates who went through the program."

Indeed, Jefferson graduates are highly sought after by top companies and nonprofit organizations across the U.S. and around the world. Why? Ainsley Maloney, associate director of industrial relations for the University's Marianne Able Career Services Center, offers one reason: "It is a practical result of Nexus Learning, which enables students to focus on real-world projects that are often brought to us by companies. In these projects, students conduct in-depth information gathering; conceive, develop and test solutions; and then formally present their recommendations to company representatives. As a result, students become skilled at analyzing problems, developing ways to address them and communicating the results." That cumulative experience comes through in job interviews—where Jefferson students are professional, poised and articulate; knowledgeable about their field; and passionate about identifying issues and pursuing solutions. "Hiring managers come away thinking, 'Wow, this person is ready to jump into our day-to-day flow of work and make an immediate contribution,'" Maloney says.

Nexus Learning also has a built-in reality check that keeps Jefferson graduates on the leading edge, Maloney believes. "Directly and indirectly, employers keep us informed about the challenges they are facing and the kinds of knowledge and skills they need to see in

their workforces," she says. "That input helps ensure that our curriculum and teaching methods reflect the evolving realities of the workplace."

Creating an educational experience that empowers students for success in a changing employment landscape is a never-ending process. At Jefferson, it means continuously fine-tuning academic programs to be sure they address each profession's evolving requirements. It's an institutional lifelong learning process paralleling the continuous learning that 21st century workers must be ready to do throughout their careers.

For Jefferson's faculty and academic leaders, it also involves peering over the horizon. "We are determined to create curricula that are game-changers, that bring unrivaled innovation and discovery to higher education, that prepare students for professional challenges that don't exist now but will a decade on," Dr. Tykocinski says.

Indeed, in many respects, Jefferson is built for a future that has yet to be defined—and it is committed to helping define that future. "Jefferson aspires to be the 'solution place,'" Dr. Klasko says. "We will help move past old barriers and preconceptions to create entirely new ways of thinking."

In other words, Jefferson—whose graduates helped drive the technical revolutions of the 19th and 20th centuries—continues reshaping higher education for the 21st century. 🍌

It's In Our DNA

By Patrick Monaghan

Innovative partnership leads to Jefferson Institute for Bioprocessing.

To Mary Lynne Bercik '90, design was always like standard project management: You needed to know how to put all the pieces together.

As executive director of global procurement at Merck Pharmaceuticals, Bercik, who graduated from Philadelphia University's fashion design program, has parlayed that concept into a successful career in the pharmaceutical industry.

Her design background also played a significant role in the founding of the Jefferson Institute for Bioprocessing (JIB), the first—and only—specialized education and training institute for biopharmaceutical processing in North America that combines commercial single-use processing equipment with the internationally recognized National Institute for Bioprocessing Research and Training (NIBRT) curriculum. JIB opened its doors last May at Spring House Innovation Park in Lower Gwynedd, Pa.

The focus of JIB, a 25,000-square-foot, hands-on training and education center, is to provide training to industry professionals through workshops and certificates and hands-on education of new bioprocessing engineers at the undergraduate and graduate levels.

With new biologic therapies turning acute and debilitating illnesses like rheumatoid arthritis, diabetes and cancer into manageable chronic diseases—and sometimes cures—Bercik was acutely aware how biologics were rapidly gaining momentum throughout the world. These therapies represent the future of medicine and of patient care. The challenge today, however, is the complex manufacturing process and lengthier regulatory approval for biologics compared to traditional small-molecule drugs. Producing biologics, with only a handful of centers worldwide dedicated to training people on how to manufacture these potentially life-saving compounds, also presented an industry-wide dilemma.

Biopharmaceuticals and biologicals are manufactured in a living system such as a microorganism, plant or animal cell—often using recombinant DNA technology. More than 40 percent of the therapeutics in research and development are biopharmaceuticals.

A Philadelphia native, Bercik says the idea for opening such a facility in the U.S. came to her while attending an annual conference in New York City hosted by the Drug, Chemical & Associated Technologies Association (DCAT). It was there that she met Dominic Carolan, CEO of NIBRT, a global center of excellence for training and research in biopharmaceutical manufacturing located in Dublin, Ireland.

"I knew they were the gold standard in the world," Bercik recalls. "Twenty-two percent of people who come to them for bioprocessing training in Ireland, including the companies that I used to work for, are from the rest of the world. I thought, what about coming to the U.S.?"

She took her idea to Ron Kander, PhD, founding dean of the Kanbar College of Design, Engineering & Commerce at Jefferson. With Philadelphia University and Thomas Jefferson University having recently merged, Bercik thought the stars were aligned for the creation of a bioprocessing facility in the Philadelphia region. Who

better to approach with this idea than a university with strong legacy programs in science and health on one side—design, engineering and business on the other—and a commitment to train today’s students for the jobs of tomorrow.

An exploratory committee from Jefferson, led by Kathy Gallagher, executive vice president and chief operating officer, and Dr. Kander, was formed, and a trip to visit the NIBRT facility in Dublin soon followed.

“They were very excited to set up a joint partnership with us,” Carolan recalls. “They saw that NIBRT had been well established for a number of years and that we had the experience associated with getting a curriculum together. They wanted a fast start in Philadelphia so it was an obvious partnership. We were delighted to do it with them.”

A few months later, in February 2017, Jefferson formally approved the creation of the Jefferson Institute for Bioprocessing—affectionately known as “JIB.” The summer of 2017 was spent on planning and site selection, and by February 2018, less than two years after Bercik’s idea took flight, Jefferson signed the formal agreement with NIBRT and construction soon began.

Along the way, Jefferson joined NIIMBL, the National Institute for Innovation in Manufacturing Biopharmaceuticals, a federally funded consortium of universities and industries based at the University of Delaware. Jefferson established key partnerships with Johnson & Johnson (Janssen), GE Healthcare, Merck, GlaxoSmithKline, Bristol-Myers Squibb, Wuxi AppTec and Shire, along with Montgomery and Bucks County Community Colleges.

JIB was formally unveiled with a ribbon cutting ceremony on May 31, 2019. Less than three years had passed since Bercik first brought the idea to Dr. Kander.

“I could not have imagined all of this back when Mary Lynne and I were standing on the corner of 10th and Chestnut streets in Center City, Philadelphia playing with possible names for this project and dreaming up the JIB acronym,” Dr. Kander recalls. “What an amazing team effort, and it would not have been possible without the coming together of Philadelphia University and Thomas Jefferson University to form the new Jefferson.”

In many ways, JIB is the embodiment of the critical components of the merger, from the transdisciplinary education curriculum and programs, to market distinction, to growth and economics.

For Dr. Kander, JIB addresses the “three Es”—economics, enrollment and esteem—of Jefferson. As an academic business unit, JIB will generate revenue; it’s providing industry training for jobs better than most universities, meaning enrollment will grow; and the relationship with NIBRT increases Jefferson’s international esteem.

“The Jefferson Institute for Bioprocessing will create a much greater intersection between industry, academics and health care,” says Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and CEO of Jefferson Health, adding that the partnership with NIBRT perfectly captures the philosophy of what defines a Jefferson education—making sure students are prepared to lead in tomorrow’s world. “Jefferson is built on

anticipating the emerging professions that will be commonplace 10 years from now and educating students in those disciplines today. The creation of JIB also puts our students at the forefront of where medicine is going.”

JIB’s state-of-the-art facility offers both the knowledge and training required to meet the continually evolving demand for the bioprocessing expertise companies need to stay competitive in the industry.

“This is the kind of facility you see in a manufacturing setting,” says Parviz Shamlou, PhD, JIB’s executive director. “To see this in an academic setting is what is surprising all of the colleagues that I’ve talked to.”

JIB’s curriculum includes a comprehensive range of education, training and workforce

development offerings, including continuing education certificates, industry workshops and certified training courses. Jefferson also offers students MS degrees in biopharmaceutical process engineering and will add more degree options in the coming year.

“Pharmaceutical industry colleagues love it because they can now connect the formal degree programs, formal traditional education, to what industry needs,” Dr. Shamlou notes. “They can see how they can send their people to JIB for the training that they need. This is what we mean by filling the gap in bioprocessing.”

Through its partnership with NIBRT in Dublin, Jefferson has widened its ever-expanding international footprint and bolstered its reputation, having already



The Jefferson Institute for Bioprocessing is creating
a much **greater intersection**
between **industry, academics**
and health care.

— STEPHEN K. KLASKO, MD, MBA



The Jefferson Institute for Bioprocessing promises
to be *the* training ground
for the pharmaceutical industry
here in the U.S.
— MARK L. TYKOCINSKI, MD

opened global education, health and innovation centers in Israel, Japan, Italy and India. In addition to these centers, Jefferson leverages other global academic partnerships to benefit our students with such institutions as St. George's University of London, Catholic University of the Sacred Heart in Rome, Kitasato University in Japan, Universidade do Minho in Portugal and many others.

NIBRT, internationally recognized for its excellence in bioprocessing research and training, serves about 4,000 industry professionals worldwide at its headquarters in Dublin, including many from the U.S. JIB will leverage the renowned NIBRT curriculum to provide a premier U.S.-based option with a significant potential market that includes 900-plus pharmaceutical-related companies in the Northeast. The Institute will also utilize the latest single-use engineering technology pioneered by General Electric.

"The Jefferson Institute for Bioprocessing promises to be *the* training ground for the

pharma industry here in the U.S.," says Mark L. Tykocinski, MD, Jefferson's provost and executive vice president for academic affairs. "Its establishment will give us an enormous advantage as a university and will bring considerable know-how and expertise to the region that other universities will be able to avail themselves of."

State Rep. Liz Hanbidge, D-61st, who attended the May 31 ribbon cutting for JIB, is excited about the impact the Institute will have on the local economy. "I can't wait to see the success, innovation, research and job creation that JIB will bring to Montgomery County and beyond," she says.

Dr. Shamlou explains that the Institute is designed to simulate a certified Good Manufacturing Practice (GMP) plant where biologics are made. The final step JIB cannot do is produce finished products. He notes how manufacturing a therapeutic such as a monoclonal antibody is a detailed process that takes weeks to complete.

"Working on a medicine that you know will help a patient, and to be able to see a drug out there that you know you had something to do with is what keeps the excitement alive," Dr. Shamlou says.

As Dr. Klasko points out, JIB is the latest example of what makes Jefferson, Jefferson.

"You have access to this incredibly comprehensive and creative University that's willing to take a no-limits approach, even beyond what you see in that bioprocessing technology," he notes. "Anything that you want to work with, whether it's engineering or business or medicine or design, we're committed to redefining what is humanly possible."

Now that JIB is up and running, Jefferson COO Gallagher sees no reason to stop with just one facility. "I want 20 Jefferson Institutes for Bioprocessing across all fields, across all industries," she says. "I want it to be in this area, I want it to be national, I want

it to be international. I want our students to work in real-life settings that set them up to be really, really successful in the future."

To think, it all began with the simple idea of putting the right pieces, and people, together. "That's what's remarkable about Jefferson and the leadership here," Bercik

says. "They see new ideas and they are always eager to let them set sail. So it makes perfect sense to name this center JIB, which in sailing allows a boat to catch more wind and move faster. Innovations move quickly at Jefferson. It's just a part of who they are."



Jefferson leadership and industry partners formally opened the Jefferson Institute for Bioprocessing with a ribbon-cutting ceremony on May 31, 2019.

JIB OPENS WITH RIBBON CUTTING and SYMPOSIUM

With the mission of providing state-of-the-art education and training in the fast-emerging field of biopharmaceutical processing, the Jefferson Institute for Bioprocessing (JIB) formally opened its doors on May 31, 2019, with a ribbon-cutting ceremony, tours and symposium.

Over 300 guests—including State Rep. Todd Stephens and State Rep. Liz Hanbidge—attended and toured the new facility. Participants also heard from four industry experts on closing the workforce gap in biomanufacturing: Killian O'Driscoll, director of projects at NIBRT; Christel Fenge, head of R&D bioprocessing at GE; Barry Buckland, executive director of NIIMBL; and JIB's Dr. Parviz Shamlou.

JIB offers a broad range of training programs to advance the skills and knowledge of scientists, engineers and technicians who work in process development and biomanufacturing of biopharmaceuticals and biologics. Through the 25,000-square-foot flexible facility at Spring House Innovation Park in Lower Gwynedd, Pa., JIB provides tactile training by combining interactive presentations, workshops, and hands-on laboratory and pilot-scale experience.

In addition to offering students MS degree options in biopharmaceutical process engineering, JIB offers customized training to meet industry needs with specialized courses developed with companies and delivered either at JIB or at the company site.

JEFFERSON IS GLOBAL

BY MIKE BEDERKA

Jefferson's study away program provides life-changing experiences for students.



spent years growing and fine-tuning the University's 30-plus offerings, from semesters in Italy for architecture, to short courses in China for fashion, to the occupational therapy ambassador program in Morocco.

Wilcox and other members of the University community detail what sets the Jefferson program apart and why every student can gain an advantage by studying away.

Immersive Experiences

While abroad, students shouldn't expect mountains of beach time or partying their days away. "These are rigorous courses with professionals in the country," Wilcox says. "They have high expectations."

Jefferson's Nexus Learning approach of crossing collaborative, real-world learning with a meaningful infusion of liberal arts allows students to leave the classroom and work with leading international experts and firms.

For example, fashion majors at the Jefferson Rome semester study with Italian stylist and costume designer Antonella Buono, and industrial design students partner on projects with local German businesses while on exchange at the Köln International School of Design. Students in Nexus Abroad's global economy course have visited the Mumbai Stock Exchange, Consumer Unity and Trust Society of India, and Kochi Tea.

"They're collaborating with faculty, seeing local businesses and historic sites, drawing sketches and conducting interviews," she says. "A lot of projects are meant for them to engage with their host culture and their chosen profession."

The seriousness of Jefferson's study away program makes it distinct, agrees Mark L. Tykocinski, MD, provost and executive vice president for academic affairs. "This reflects the kind of students we have at Jefferson. These are students who have direction."

Madeleine Wilcox smiles and takes a deep breath before diving into just *some* benefits of participating in the University's study away program.

"Coming to Jefferson you have a lot of amazing opportunities," she explains. "But our campus is larger than East Falls and Center City. Our campus is the world. You experience your major in a new setting and expand the possibilities of what you can do—as a professional and a person. You grow your network, meet new friends and mentors, see different places, gain inspiration and communicate across cultures."

Of course, Wilcox may be a bit biased (and rightfully so). As Thomas Jefferson University's director of International and Domestic Study Away Programs in the Office of Global Education and Initiatives, she has

Students spend a semester in Rome immersed in their architecture, fashion and culture.

Transformational Stories

Demonstrating the program’s substance, 27 Jefferson students and four faculty members traveled to Morocco and Spain this past summer for 10 days of intense fieldwork. The interprofessional group of entry-level occupational therapist (OT), occupational therapy assistant (OTA) and couple and family therapy (CFT) students volunteered in a community clinic for children with disabilities, visited an orphanage, spent time with older adults in memory care units and worked with women undergoing treatment for cancer, all while advocating for their respective professions and providing client education. Beyond that, the students traveled to historic mosques and bazaars, rode camels and enjoyed traditional dance and music shows.

“We live in an international world,” says Monique Chabot, assistant professor of occupational therapy. “The best way to understand where someone comes from and to find commonalities is to experience their culture—not just as a tourist but as someone who earnestly says, ‘Teach me

about your world.’ It changes you. You come home and see things in a new way.”

OTA student Julia Sablom calls the fieldwork a once-in-a-lifetime experience that allowed her to better understand Moroccan and Spanish cultures and how these environments impact occupational performance. She also benefited from the opportunity to collaborate with OT and CFT students.

“I’m so grateful for all the lessons I have learned and all of the memories I have made,” Sablom says.

Other students share similar transformational stories of their time away from Philadelphia. Architecture student Andonis Hughes says exploring Rome, Florence and Venice made him more appreciative of art and allowed him to take his work to the next level.

“Studying abroad brought out my inner creativity and pushed my style of design,” adds fashion design student Allison Moore, who also traveled to Italy in spring 2019. “I could focus and push myself as a designer. It will forever give me a different outlook on my designs and way of thinking.”

Physician assistant studies student Mariah Pease says her semester in Costa Rica fueled her desire to continue learning Spanish to better help the community. “I want to become a PA that makes every patient feel confident and comfortable,” she says.

Flexible Programs

Jefferson features a portfolio of study-away options to meet every student’s need and schedule, Wilcox says. Some spend up to a year abroad, while others with less flexibility due to athletics or an internship or job, may opt for a short course over winter or spring break. These 10-day trips cover the world, such as Paris for fashion, Havana for global economics and Costa Rica for biomimicry.

The University regularly hosts workshops to help students find the right program, guide them through the process and address any potential barriers. Students and their families sometimes worry about the cost, but Wilcox says Jefferson strives to keep the program as economic and seamless as possible.



Aside from additional travel expenses, the tuition and housing generally run the same as a traditional semester on campus, and financial aid does transfer. In addition, study away won’t delay graduation, she says. “It’s not time off.”

What’s Ahead?

Jefferson’s study away program began decades ago, and it continues to change and improve with each passing semester. Since the 2017 merger of Philadelphia University and Thomas Jefferson University, for instance, more graduate students have enrolled in study away, Wilcox says. Some popular options include the MBA program to London and the fashion design management program to Milan.

In the coming years, Wilcox sees more opportunities for interdisciplinary collaborations and majors that haven’t traditionally participated, such as the STEM fields.

She believes study away enhances every major at Jefferson and gives students global experience and perspective that makes them stand out.

“Students who do study away develop those soft skills employers want,” Wilcox stresses. “They can work with people from many different environments. They have cross-cultural competencies. They’re independent. They’re able to handle new locations. A line on a resume that says ‘study away’ tells a story.”



CHECK OUT OUR STUDENTS IN ACTION as they explore Rome!

Global fashion enterprise and fashion management and merchandising students traveled to China with faculty member Mark Sunderland ’84 M’06.

UNIVERSITY CREATES JEFFERSON CENTER FOR GLOBAL ENGAGEMENT

By Patrick Monaghan

While Jefferson’s commitment to providing a rich international experience for students and faculty isn’t new, the standardization of our approach to Jefferson’s international work and global priorities is. Enter the creation of the Jefferson Center for Global Engagement (JCGE), where we’re working daily to grow our sustainable, high-impact collaborations with leading international institutions to enhance all of our programs.

Under the leadership of Kathy Gallagher, Jefferson executive vice president and chief operating officer, and Daniela Ascarelli, associate vice president of global engagement, the JCGE includes:

- A Study Away Program that offers more than 30 global opportunities for students and faculty to experience the world beyond the borders of our campus and country.
- An International Affairs Office that facilitates the exchange of ideas, scholarly work, related research, education and patient care approaches with members of the international community.

JCGE collaborates with other global initiatives across Jefferson, including:

- Country Centers in India, Israel, Italy and Japan that create unparalleled academic experiences for students and faculty and strengthen our global relationships.
- Global Academic Partnerships, such as the Jefferson Consortium for African Partnerships and activities in Latin America.

“The programs and alliances formed by the Jefferson Center for Global Engagement with like-minded and visionary partners continue to propel us towards our vision—becoming an international destination and resource for education, research and clinical activities,” says Mark L. Tykocinski, MD, provost and executive vice president for academic affairs and the Anthony F. and Gertrude M. DePalma Dean of Sidney Kimmel Medical College.

Learn about the LOCKYER GLOBAL PASSPORT SCHOLARSHIP on page 11.

Pursuing Knowledge and Impact

BY MARK L. TYKOCINSKI, MD

*Provost and Executive Vice President for Academic Affairs, Thomas Jefferson University
Anthony F. and Gertrude M. DePalma Dean, Sidney Kimmel Medical College*

One of the exciting dividends of the creation of the new Jefferson is our joining the ranks of the nation's premier research institutions—as we are now designated as a “Research II doctoral university” by the Carnegie Classification System. In one sense, the designation simply affirms what we already knew: Jefferson has an elite cadre of researchers, spanning fields from the frontiers of the basic and clinical biomedical sciences to those of the applied sciences such as textile engineering and sustainable building, and even those probing the nature of creativity itself. In another sense, the designation poses a challenge to us: to increase the breadth and depth of the research we do, and to strive to be at the front of the pack in terms of research impact among our new peer universities, such as Princeton University, Johns Hopkins University and University of Pennsylvania.

I emphasize impact because while we are certainly scaling our research enterprise at Jefferson, our relentless focus continues to be on its impact, in terms of advancing the frontiers of knowledge and science per se, but also in translating it into useful technologies for the benefit of society. Stated simply, we especially care about

the significance of our discovery. And we define that significance broadly. We prize knowledge for knowledge-sake—in the spirit of Abraham Flexner's “Usefulness of Useless Knowledge”—and at once, we encourage knowledge that can make its way into product and practice. With a view toward the latter, we conduct research in many fields, and then invest strategically to mine practical impact and human benefit from what we learn. Our faculty mindset, now coupled to Jefferson's Innovation Pillar, paves the way for this approach. Thus, while many of our new peers are larger and better funded, we believe we more than match up with them when it comes to connecting fundamental insight to practical benefit. Excelling at the nexus of creating and translating can be a defining strategic advantage.

In addition to this dual emphasis on creation and translation, our demonstrated ability to cross disciplines further distinguishes us. Over the years, on both campuses, we have been creating a robust, pioneering culture where impassioned faculty, students, clinicians and technical staff work across departments, disciplines and professions. For example, to support innovation and cross-disciplinary collaboration, we

established a new seed-funding mechanism (the Deans' Transformational Science Awards), and the return on this investment has been significant. In parallel, we have implemented central support systems to reduce investigators' administrative burden and facilitate interdisciplinary, programmatic grant proposal submission. And we are launching new research and development platforms, such as the Jefferson Institute for Bioprocessing that opened this past spring, that bridges our post-merger collective strengths in bioengineering and biologics. The early success of these initiatives is reflected in the increasing number of researchers from the East Falls and Center City campuses who are pursuing projects together—whether to enhance care for spinal injury, change paradigms of healthcare delivery, rethink architecture and construction technologies, or better understand cultural barriers in our society.

More than anything else, our promotion to the ranks of top research universities makes clear the tremendous level of commitment, energy and momentum embodied in the expanding Jefferson research enterprise. We are proud—and ready—to join our new peers in helping to define the future.

UNIQUE PROGRAMMATIC RESEARCH INITIATIVES

Research at Jefferson falls into three categories: Basic Research uncovers fundamental new knowledge in the sciences, engineering, social sciences and humanities. Clinical and Translational Research tests whether and how fundamental new knowledge can be put to use. Applied Research subjects existing knowledge to new processes and technologies, addressing specific needs for individuals, communities or organizations.

But these categories need not be mutually exclusive. Indeed, Jefferson's Programmatic Research Initiatives aim to make rapid and meaningful advances by supporting multidisciplinary teams of investigators who integrate the three types of research. Two programs well exemplify this approach—as well as the increasing number of collaborations among faculty and student researchers from the East Falls and Center City campuses.

The **Functional Fabrics** program advances research, analysis and development of fabrics and textiles that serve very special purposes. At Jefferson, those purposes have included NASA space suits, uniforms for warfighters and for Olympic athletes, textiles that extract heavy metals from the sea and those that naturally kill bacteria, mold and fungi. We are also conceptualizing, researching and developing products that address medical needs—for example, a functional vest for multiple sclerosis patients, fibers that hasten wound healing, and materials capable of sensing and transmitting clinically relevant biochemical or physiological changes. And researchers in the Edward P. Marram

Biomedical Textile Structures Laboratory are pairing advanced textiles with cultured stem cells to study the functionality of cell-covered materials for medical uses—such as a “cardiac patch” for treating coronary artery disease.

In the **Hemp Initiative**, researchers are pursuing four integrated goals: Advancing basic scientific knowledge about hemp and its components; exploring where hemp could be a cheaper or more effective raw material for existing products; conceiving and creating wholly new biomedical and manufactured products; and defining markets and sustainable supply chains for those products. The program engages dozens of departments across the University, from engineering and textile design to chemistry and surgery. One team, for example, has been exploring many of hemp's absorptive, antimicrobial, electrical and mechanical characteristics; and they have developed an environmentally sustainable method for processing hemp and creating high-performance manufactured products with unique characteristics. Other teams are investigating the medicinal effects of cannabis. For example, rehabilitation medicine researchers are developing evidence on the long-term effects of marijuana, which can be used to create outcome metrics for clinical trials on cannabis-based therapeutics; and they are studying patients' perspectives, experiences and knowledge of cannabis—information that can be used to develop patient and caregiver educational programs that counter broadly held inaccuracies. 🍃

Mark Tykocinski



LIVING THE DREAM

BY CINDY LEFLER

Jefferson grad orbits among the stars like LL Cool J and Rihanna.

As a kid growing up in the Mount Airy section of Philadelphia, **RYAN PRESS** idolized recording artists such as Mary J. Blige, LL Cool J and Jay-Z. Now 39 years old and living in Los Angeles, he finds himself sitting down with many of his childhood heroes to give them guidance on their careers.

"When I was young, I never dreamt of being around these people, but now those I've looked up to my whole life are listening to my ideas and taking my advice," Press says in humble amazement.

Press, a 2001 graduate of Thomas Jefferson University, has become a mover and shaker in the music industry, and was recently named president of A&R for the U.S. at Warner Chappell Music. A&R stands for "artists and repertoire"; it is the division of a music publishing company or record label that is responsible for talent-scouting and the artistic and commercial development of a songwriter, producer or recording artist.

Although he now lives in California and travels a lot for the job, Press' career took root in Philadelphia, where he was surrounded by the local music scene around his neighborhood and at college.

He was introduced to what was then known as the Philadelphia College of Textiles and Science at a young age through his cousin, David Fields, a star player for the basketball team in 1994. He spent a lot of time at the college watching Fields play, so when he was recruited to be a Ram, "it just felt right."

Although Press attended the college on a basketball scholarship, when the time came to decide whether he wanted to pursue a career in professional sports, it came down to being a bit of a homebody.

"I had some offers overseas, but at the time I was 21 and lived in Philly all my life," he says. "I wasn't mentally prepared to travel and live in a foreign country by myself."

So, he stayed in Philadelphia and used his marketing degree to build a career in the music industry.

His best friend, Chad Wes, was an up-and-comer on the Philadelphia hip-hop scene; during the summers at college, Press would spend time with him at the studio. Eventually, he became Wes' manager, and together they "started making things happen."

First, they got a production deal with Roc-A-Fella Records, which was Jay-Z's company at the time, and started producing for all the local Philly acts signed to the company.

From 2002 to 2004, there was more growth and more success as Press climbed the ladder one rung at a time, eventually moving on to a creative consulting position in A&R at Notting Hill Music Publishing. In 2009, a senior director of A&R position opened up at Warner Chappell Music, and Press was ready.

"I got the job, moved to New York, and dove into the publishing side of the business," he says. He started working closely with an array of acclaimed artists, songwriters and producers, including Rihanna, DJ Khaled, Wiz Khalifa, Meek Mill and Lil Wayne, among others.

He was later promoted to vice president of A&R, and then co-head of A&R. Now, as president of A&R for the U.S., he looks back on a career of "hard work and hustle"—something he says a lot of young people seeking to follow in his footsteps need to understand comes with the territory.

"It's one thing to look at my career and say you want to be where I'm at today, but you have to do what I've done behind the scenes to get there," he says. "On my journey, I've done it all. I've managed, I've been someone's assistant, I've driven people around. No job was too big or too small for me. The phrase I live by is: Your ego is not your amigo."

To clarify, Press uses a basketball analogy: "A lot of young people see LeBron James, but they don't see LeBron James waking up every morning at 5 a.m. and lifting weights and working on his game to be able to perform the way he performs. You have to put the work into it," he says. Quoting basketball star Kevin Durant, he adds, "Hard work beats talent every time."

He says all his hard work is geared toward one thing—helping someone else chase their dreams.

"Every (aspiring artist) that I've signed I've felt in my heart will go on to have No. 1 records," he says. For those who were already stars when he came along, the goal is to create "special moments" through helping them to deliver hit songs. Two of his biggest moments recently were putting the right songwriters and producers together with Rihanna to deliver the chart-topping "Work," and pairing Swae Lee and Carter Lang with Post Malone and Louis Bell for "Sunflower" from the animated movie "Spider-Man: Into the Spider-Verse."

Press says he sometimes has to pinch himself to believe he is really in the orbit of some of his hip-hop and R&B idols.

"At the end of the day," he says, "I'm living the dream." 🍷



Ryan Press with Kendrick Lamar and Jon Platt.



Live Life Like a Clock

BY KYLE HARDNER

Keeping pace with cross country legend Dave Thomas isn't easy.

The alarm rings at 5 a.m. For **DAVE THOMAS**, that means it's time to start running. "In my day, I ran for 100 miles or more every week," Thomas says. Today, at age 62, it's closer to 35 miles a week. But he's not slowing down.

For the last 13 years, Thomas has served as head coach for the men's and women's cross-country teams at Thomas Jefferson University. Seven years ago, he also became coach of the Rams' men's and women's track teams. Now he is a full-time employee of the University.

He entered 2019 with 13 Central Athletic Collegiate Conference (CACC) cross country championships, including three for the men and 10 of the last 11 for the women. He's also won nine CACC Cross Country Coach of the Year awards, including this season. Yet those numbers only start to explain the profound impact Thomas has had on Jefferson, its student athletes and the sport of running in Philadelphia.

"When you look at Dave Thomas' career, he and (Jefferson men's basketball) Coach Herb Magee could be mentioned in the same breath when it comes to the impact they've had on their sports at Jefferson," says Assistant Vice President of Athletics Tom Shirley.

MENTORED BY SOME OF THE BEST

An Olney native, Thomas "got the bug" for running as a student at La Salle College High School, where he was part of the 1972 City Championship cross country team under legendary head coach Tom Donnelly. He then raced for another Philly cross country titan, Jack Saint Clair, at Temple University. "Those two coaches set up my love of the sport," Thomas says.

Armed with a BS in exercise science, Thomas helped train athletes from the Philadelphia Flyers and 76ers under the tutelage of high-energy entrepreneur Pat Croce. All the while, he kept running. He's completed 76 marathons (26.2-mile

races), including the Boston Marathon 17 consecutive times. He ranked in the top 10 in the U.S. in ultramarathons (races longer than 26.2 miles) in the 1980s.

TEACHING OTHERS THE JOY OF RUNNING

After coaching the Leukemia & Lymphoma Society's "Team in Training" amateurs, Thomas came to what was then Philadelphia University in 2004 as assistant cross country coach under Holly Stagliano. He became head coach a year later. "It was the right outlet for my energy level and commitment to running," Thomas says.

For 14 years, he's demanded the same commitment from his student athletes at Jefferson. "I'm old-school," Thomas says. "I demand my runners get eight-to-nine hours of sleep a night, eat right and take care of their bodies."

"He always says 'live like a clock,'" says Erin Young '20, who was an NCAA women's cross

country All-East Region honoree last year. "He's taught me to be more responsible. To not be late. And to not waste any time."

Thomas teaches runners discipline with weekly training plans. "He gives you word-for-word instructions," says Greg Dawson '20, a freshman walk-on who will co-captain this year's men's cross country team. "He helped me improve my training and race times dramatically. In high school I ran 20 to 35 miles a week; now I run 50 to 65 miles a week."

Thomas also stresses academics. "He'll sit runners out if they're not achieving academically," Shirley says. Last year, the men's squad earned the All-Academic Team Award from the U.S. Track & Field and Cross Country Coaches Association with a 3.36 team GPA.

And Thomas shows respect for his team and the sport through his choice of "uniform." At every meet, he wears a shirt and tie. For CACC Championships, he sports a full suit and a fedora. "It sets a good attitude," Thomas says. "It shows that this is our business, and we take it seriously."

MAKING AN IMPACT BEYOND JEFFERSON

Eight years ago, when his lifelong running "home," Belmont Plateau inside Fairmount

Park, began to show signs of age, Thomas produced a study showing that 80,000 runners use the course each year. He shared it with Fairmount Park Conservancy, which allotted money to make improvements. Thomas redesigned the course and created new markers. "I was out there with my own shovels," he says.

His hard work reaped rewards. In November, Belmont Plateau hosted the NCAA Division II East Region Championship in cross country for the first time since the mid-1980s. Thirty-eight schools from the CACC, Northeast 10 and East Coast conferences competed.

To further the legacy of Philadelphia running, Thomas has created the Belmont Plateau Cross Country Hall of Fame. Right now, it lives on a website, "but I plan to build a wall or monument to mark it," Thomas says.

Thomas will likely be a hall-of-famer in his own right. But that's not his motivation. His passion for coaching boils down to his lifelong philosophy of caring for your own body. "Running isn't just for competition," he says. "It's something you can continue your whole life. Helping others do that through coaching at Jefferson keeps me energized." 🏃



MAN in MOTION

Highlights of Dave Thomas' Incomparable Running Career

RAN **120,000 miles** and OVER **800 races**, INCLUDING:

76 MARATHONS

17 consecutive BOSTON MARATHONS

Once RACED **133.5 miles** in **24 hours**

RAN from PHILADELPHIA to ATLANTIC CITY 1983

Enjoyed a personal best time of **2:28.54** in the CHICAGO MARATHON 1985

RAN **127 miles** in "RUN AROUND PHILADELPHIA" 1988

1st AMERICAN FINISHER in **56-mile races** in SOUTH AFRICA COMRADES MARATHON 2000 and LONDON-TO-BRIGHTON RUN 1992

Ran around the PHILADELPHIA SPECTRUM for **24 hours (TWICE!)** 1991-92

RAN **100 miles** from HERSHEY PARK ARENA to the SPECTRUM 1992



Athletics Highlights

Last season, Women's Basketball claimed its third CACC Championship and competed in its second straight NCAA Tournament. The Rams had a historic year, posting a school-record 29 victories and ranked as high as second in the nation at one point. **JESSICA KAMINSKI '18, M'19** wrapped up one of the greatest careers in program history, earning CACC Player and Defensive Player of the Year honors and she was also named to the D2CCA All-East Region first team. Kaminski was the *Philadelphia Inquirer* Academic All-Area Performer of the Year and finished her career in the school's all-time top-10 in points, rebounds, assists and steals.

KINLEY LINGENFELTER '21 of Women's Golf had an impressive season, leading the team with a 78.2 scoring average. She was the team's top finisher in all 15 rounds she played. Lingenfelter placed first on nine occasions and was chosen to the *Philadelphia Inquirer* Academic All-Area Women's At-Large Team.

In April, Men's Basketball coach **HERB MAGEE '63** and Women's Basketball coach **TOM SHIRLEY** became the winningest duo in the NCAA. Their combined career victories are the most of any active pair at one school in the nation. They're approximately 100 wins ahead of the next closest duo, Duke's Mike Krzyzewski and Joanne McCallie.

Women's Rowing competed in its fifth NCAA Championship regatta, its first since 2015, and placed fifth in the nation. **MAXI SCHACHT '22** was selected as the program's sixth CRCA All-American and is the first freshman in school history to receive the honor. The Rams also had eight women named CRCA National Scholar-Athletes, tied for the most in program history.

The Softball team advanced to the final day of the CACC Tournament, placing third overall. **STEPHANIE PEPPER '19, NAOMI STAS '20** and **EMILY WILLIAMS '20** were named to the All-CACC team. Pepper wrapped up an impressive career, finishing with 616 strikeouts. She led the CACC in that category in 2019 with 149.

Women's Track & Field's **KALI SAFER '21** was chosen as the CACC Track Athlete of the Year after winning the 5,000 meters and the 3,000 meter steeplechase at the conference championships. **LINDSEY CARL '20** (high jump) and **ERIN YOUNG '20** (1,500 meters) also won events at the CACC meet. The Rams broke five school records during the campaign.

LIVIU TRIFOI '20 of Men's Tennis was selected to the All-CACC second team. He led the Rams with nine singles victories on the season.

Baseball reached the final four of the CACC Tournament and finished fourth. **JACK GALLIGAN '20** earned All-CACC second team honors and **DANIEL SABATH '21** received the CACC Top XVI Award for having the highest cumulative GPA at the championship site.

Six Men's Track athletes were named to the CACC All-Academic Team. **ETHAN FADALE '19** received CoSIDA Academic All-District honors.

The Women's Lacrosse team reached the CACC Championship Game and finished with a 10-6 record, the Rams' highest winning percentage since 2016. **ERIN CAMPBELL '21** was named the CACC Defensive Player of the Year and was joined on the All-CACC team by **SARAH VON LANGE '20** and **CHANEL D'ANGELO '19**.

In 2018-19, Jefferson student-athletes completed a **RECORD 4,925 HOURS OF COMMUNITY SERVICE**. The baseball team led all programs with 2,104 hours. The Rams partnered with organizations such as Athletes Helping Athletes, Special Olympics Pennsylvania, Beats for Bella, Team IMPACT and Erving Youth Basketball Experience.



Team Chemistry and Dedication Drive Prolific Rowing Season

By MIKE BEDERKA

A strong finish at the NCAA Division II Championships capped off a historic 2018-2019 women's rowing season. The Rams placed fifth as a team and the varsity eight won the Petite Final, defeating UC San Diego at the Indianapolis Rowing Center in late spring.

This marked the third team appearance at the NCAA Championships, with Jefferson finishing third in 2010 and fourth in 2009. The University also competed in the varsity eight event as an at-large selection in 2015 and 2008.

"I knew they had the training and toughness to compete against the best teams in the country," says head coach Chris O'Brien, "but I'm most proud that the team directly saw the results of the incredible commitment they made all year long."

A dominant showing at the Jefferson Dad Vail Regatta in May—where the Rams delivered three top-five finishes—paved the way for the squad to earn an NCAA automatic bid as the No. 1 team in the East Region. The varsity eight narrowly missed a Regatta medal, finishing just a second behind third-place Humboldt in the Grand Final.

The largest U.S. collegiate regatta took on even greater meaning for three Jefferson rowers. With the competition taking place during commencement, the University held a special ceremony on Boathouse Row for Sarah Doelp, Emma Erato and Martina Saad the day before to avoid a conflict.

"When the commencement date was announced, I knew I would be racing at the Regatta," says Erato, a fashion design alumna who began rowing her senior year. "Everyone expected me to be upset or disappointed. The thing was, I couldn't see myself doing anything besides racing the

day of my graduation. I fell in love with the sport, and my team became an extended family."

"Rowing has been my entire life for four years," adds Saad, a pre-medical studies graduate. "Being on this team means so much to me. I wouldn't give up this Regatta for anything."

With 31 competing athletes, the University boasted its largest team ever during this prolific season. The Rams' varsity eight went undefeated against regional competition, and the varsity four finished behind a regional opponent just once during the campaign.

"We faced some adversity like every other team, but every time, another person rose to the occasion," O'Brien says.

Competing in the NCAA's became an early-season target for the Rams, says pre-medical studies student and 2019-2020 captain Elizabeth Zolnierzak. She attributes strong chemistry and dedication as major factors to their success.

"From top to bottom of the roster, we pushed and encouraged each other," she says. "Our coaches always tell us championships are won in January and February, and when you look at our team and accomplishments, you can see how much hard work we put in months out from our races."

After last season's run, 2019-2020 captain and business marketing student Michaela Strangia says the team has set the standard of what it can achieve.

"The goal," she says, "is a national title."



CHANG WEI '20 of the **WOMEN'S TENNIS** team was named to the All-CACC second team. Wei went 8-4 in singles play during the regular season, including 5-3 against conference opponents. She split her time between first and second singles. In doubles, the senior was 8-5, 5-3 in CACC matches. The Rams advanced to the semifinals of the CACC Tournament.

Four Jefferson athletic programs received the **2018-19 CACC TEAM ACADEMIC AWARD**. The new award recognizes the school with the highest team grade point average in each of the league's 16 championship sports for the past academic year. For the Rams, **MEN'S CROSS COUNTRY**, **WOMEN'S LACROSSE**, **MEN'S TRACK & FIELD** and **BASEBALL** garnered the award. Overall, 11 of Jefferson's programs posted a team GPA of 3.0 or higher.

Jefferson was recognized by the NCAA as part of the **PRESIDENTS' AWARD FOR THE ACADEMIC EXCELLENCE** program for achieving a five-year Academic Success Rate (ASR) of 90 percent or higher. Jefferson had the second-highest ASR in Division II at 98 percent, giving the Rams their fifth straight NCAA Presidents' Award for Academic Excellence and eighth overall. The Presidents' Award is given to schools that achieve a four-year ASR of 90 percent or higher.

The **MEN'S CROSS COUNTRY** team finished third at the CACC Championships. The Rams recorded 77 points on the 8K course. **OWEN BRADLEY '23** and **STEFAN URQUIDI '23** earned All-CACC honors for placing in the top 15. **GREG DAWSON '20** received the CACC Top XVI Award for posting the highest cumulative GPA at the 2019 CACC Championship. It was the second consecutive year that Dawson earned the honor.

The **WOMEN'S CROSS COUNTRY** team captured its sixth straight CACC Championship, and 11th in the past 12 years. The Rams claimed the crown with 42 points on the 5K course, edging out Felician. Five runners finished in the top 15 to be named All-CACC. **KALI SAFE '21**, **KYLEIGH PERCY '23**, **ERIN YOUNG '20**, **MEGHAN HORAN '20**, and **BRITTANY GABLE '22** all received the honor.

ALEXIS LEDDY '20 became the all-time digs leader for Jefferson **VOLLEYBALL**, finishing her career with 1,585. **LOGAN DONTTELL '21** earned All-CACC honors for the second straight year, being named to the third team. The Rams finished third in the South Division and qualified for the conference tournament.

CHARLIE LIVESEY '20 of the **MEN'S SOCCER** team garnered First Team All-CACC and D2CCA All-Region honors. He helped lead the Rams to a sixth-place finish and a spot in the CACC Tournament.

The **WOMEN'S SOCCER** team won its fourth CACC Championship and made its third NCAA Tournament appearance in program history. The Rams won 15 games, one shy of the school record, and had a program-best 11-game win streak at one point. **ERIN TINNENY M'20** and **LAURAL ERICK '23** were chosen as the CACC Goalkeeper and Rookie of the Year respectively and **SOCRATES NICOLAIDIS** garnered CACC Coach of the Year honors. Senior **MARYKATE ULMER**, freshman **PAYTON COLE** and **TINNENY** were selected to the D2CCA All-Region second team.

The **WOMEN'S BASKETBALL** team played a high-profile exhibition at UConn prior to the start of the regular season. The Rams' experience squaring off against the 11-time national champion Huskies was profiled by the Philadelphia Inquirer.

JOSH BRADANESE '20 became the 57th Jefferson **MEN'S BASKETBALL** player to reach 1,000 career points. He accomplished the feat at Queens College on Nov. 16. 🏀



Coach Herb Magee celebrates with his team, Stephen K. Klasko, MD, MBA, President of Thomas Jefferson University, and Richard Haverstick Jr., Chairman of the Board of Trustees.

Naismith Hall of Fame coach **HERB MAGEE** added another achievement to his legendary career, picking up his **1,100TH VICTORY** with the Thomas Jefferson University men's basketball team's 98-79 decision over Kutztown on Tuesday, Nov. 19.

Magee is just the second coach in the history of college basketball to reach the mark, joining Duke's Mike Krzyzewski. Magee is in his 53rd season at the helm. He is the second-winningest coach in NCAA history behind Coach K and first in Division II.

JEFFERSON



Fashion Show 2019

On the biggest night of the year for Jefferson’s fashion design students, 110 seniors, juniors and sophomores showcased over 350 looks at the Annual Fashion Show. Custom prints and jacquards created in collaboration with 30 textile design students enhanced many of the collections. Led by **Lauren Vastano ‘19**, Jefferson’s Fashion Industry Association (FIA) produced the sold-out event attended by prospective and current students, family members, fashion industry leaders, media, fashionistas, influencers, and University faculty, staff and trustees. Some 120 fashion design and fashion merchandising and management students planned every aspect of the program, including the model fittings, run of show and backstage dressings.



Devon Kremmelbein
Fashion Design Problem Solving



Jaclyn Everett
Approaching Peace



Vanessa Fath
Serenity Submerged



Thomas Heidebrecht
FlamBOYant



Noel Watt
Leftovers



Colton Snavelly
We Need to Talk About Colton



Celebration of Innovation

Jefferson recognized alumni, industry leaders and students at the Celebration of Innovation, the University's platform for advancing the importance of higher education and innovation, and the impact they have on the global economy. Leader of Innovation Medal recipients included **Donna Nicoletti Ferrier '80**, owner of Talisman Designs and partner and owner of Philadelphia Suburban Development Corp.; **Nicholas Siciliano III, PhD '15**, CEO of Invisible Sentinel; **Denise Tjokrosaputro '96**, CEO of Papan Land and co-founder and CFO of Milestone Pacific Group; and **David Tuttleman '83**, co-founder and CEO of Matrix NV and vice chairman of the Tuttleman Foundation. **Theresa Chiarenza '20** was awarded the Student Leader of Innovation Scholarship, and vice president of athletics and women's basketball coach **Thomas Shirley Jr.** recieved the Lifetime Impact Award.



SAVE THE DATE!

Celebration of Innovation 2020
Friday, May 8 | 6 p.m.



Innovators' Expo

In a weeklong celebration of capstones and collaborative designs, over 200 projects were showcased at the Innovators' Expo at East Falls. "If you want to talk about sheer creativity, this is the place," says Michael Leonard, academic dean of the School of Design and Engineering. Projects were presented from nearly all design programs, including ideas and prototypes for things like an ergonomic, electric lawn tractor and a men's skincare line derived from plant-based ingredients from the desert. The Innovators' Expo featured 32 projects that received the Eileen Martinson '86 Fund for the Undergraduate Capstone Experience Grant.



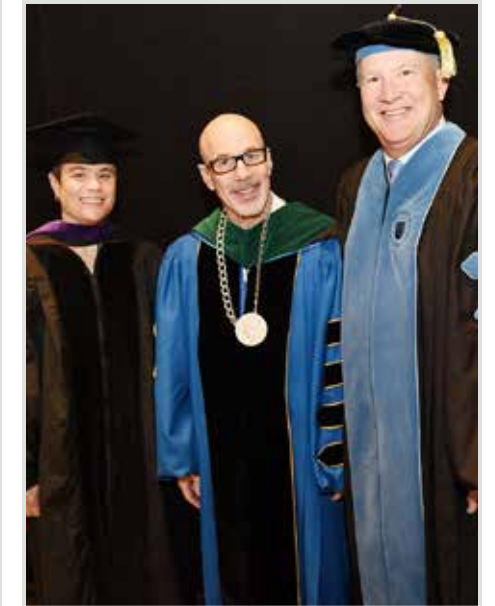
SAVE THE DATE!
Innovators' Expo 2020
 May 6–13





Commencement

At Jefferson's 195th Commencement, over 750 undergraduate students hailing from 47 programs received their degrees, with even more students participating in the graduate commencement ceremonies to follow days later. In a special separate ceremony, the University recognized three rowers competing in the Dad Vail Regatta, who could not walk at undergraduate commencement. Senior rowers **Sarah Doelp**, **Emma Erato** and **Martina Saad** received their diplomas a day early in a unique processional—at the Crescent Boat Club on Philadelphia's famed Boathouse Row—in order to race with their team in the Dad Vail Regatta, the largest and most prestigious collegiate rowing competition in the country.





Homecoming 2019

On Oct. 4-5, alumni descended on Jefferson's East Falls Campus for a fun-filled weekend. Through campus tours, cheering on the men's and women's soccer teams at the Ramily BBQ and the annual Homecoming Dinner Dance, alumni got the chance to see what has changed and observe all that's still familiar about their alma mater. A special congratulations to the class of 1969, who were inducted into the Golden Ram 50-year society!

SAVE THE DATE!
Homecoming 2020 | October 2-3



The class of 1969 celebrated their 50th reunion on campus.



The **18TH ANNUAL ROBERT C. LOCKYER '68 GOLF INVITATIONAL** reached its goal of \$50,000 in support of Athletics and student financial aid. Nearly 100 golfers joined us on June 13 at the 1912 Club.

The day started off with a new putting contest before the shotgun start giving one lucky winner the chance to sink a 60-foot putt and win \$2,500. Other highlights included a look back on the year from Stephen K. Klasko, MD, MBA, during the cocktail reception and a live auction.

Athletics plans to use these funds to enhance several of our field and game surfaces. Alumni field, Ravenhill field and the softball field will have permanent fixtures put in place for video camera equipment, which will allow athletics to live stream each home game. Lastly, 25 spin bikes were purchased to enable classes for athletes and students.

Golf Invitational Supports Jefferson



SAVE THE DATE for the **19TH ANNUAL ROBERT C. LOCKYER '68 GOLF INVITATIONAL** on **JUNE 11, 2020**



ANTHONY "TONY" J. DIELSI '79, noted alumnus and former Philadelphia University Trustee, passed away July 9, 2019. DiElsi graduated with a degree in fashion merchandising. While attending Philadelphia College of Textile and Science, he took the advice of one of his professors, Beth Mariotz, EdD, and participated in an internship program at Strawbridge & Clothier in Philadelphia. Upon graduating, DiElsi accepted a full-time offer at Strawbridge & Clothier. Eventually, he ended up at Ross Stores Inc., where he spent over 20 years, most recently holding the position of executive vice president/general merchandise manager. He was born and raised in Philadelphia and spent much of his career living between Orange County, California, and New York City with his lovely wife of 20-plus years, Joan.

DiElsi credited the University, and especially the internship experience, with his success and was generous in spirit and philanthropically. DiElsi was a member of Philadelphia University Board of Trustees, the Fashion and Textiles Futures Center Campaign Committee and the Kanbar College of Design, Engineering



& Commerce Advancement Council. In 2017, DiElsi was awarded the Leader of Innovation Medal from Philadelphia University. Prior to her retirement, DiElsi supported Mariotz' work by establishing the Anthony J. DiElsi '79 Term Chair for Fashion Merchandising and Management and later made a significant contribution toward the Fashion & Textiles Futures Center and renovation of Hayward Hall. He was a great friend, mentor and advocate for the University.



Emeritus Professor **HERBERT J. BARNDT** passed away Nov. 21, 2019. Barndt worked at the University for over 50 years teaching in the textile department, and at different times overseeing the Yarn Manufacturing Labs and Weaving Labs, and directing the Grundy Materials Evaluation Laboratory. He also provided expert advice for removing stains on fabrics, writing two books and earning the name, "Dr. Spot." He is survived by his wife Jane, his children Stan Barndt, Michael Barndt and Mary Richardson, and his six grandchildren.

The family has requested gifts in memory to support the Herbert James Barndt Textile Scholarship at Jefferson. The scholarship supports students in the undergraduate or graduate textile design, textile product science, textile engineering or other textile-related programs.

IN MEMORIAM

Otto P. Durheimer '48
Norman R. Cerino '51
George Morell '51
Jerome Hecht '66
Richard A. Grunwald '69
Edward L. Urofsky '70
Carol Packer '78
ANTHONY J. DIELSI '79
John D. McGill '79
Theodore J. Segletes '79
Debra P. O'Hara '92
Theresa R. Cooke '93
Phillip Cronin '95
James Ives '00
Joseph E. Hewitt '08
HERBERT J. BARNDT
Florence R. Fay
Jamie L. Fudell
John P. Harvey
Thomas Perna
Bruce R. Smith
Susan C. Sobecki

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At Thomas Jefferson University, we prepare the professionals of the future. Our method? Nexus Learning™—our signature approach to teaching and learning that ensures the development of critical skills employers seek for tomorrow's workplace—that's why employers come to Jefferson first for their hiring needs.

Streamline your hiring processes today by working with Jefferson's Career Services with options like:

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Attend in-person recruiting events on campus where you can interview several top candidates at one place in the same day.

POST A POSITION

Register for our free job board, Handshake, to post internships as well as full- and part-time job opportunities for current students and alumni.

ON-CAMPUS INTERVIEWS

Holding an On-Campus Interview offers you a streamlined approach to meet all of your top candidates all in one day. Once you post your position, we handle the rest!

HIRE AN INTERN

Internships give students valuable, hands-on, real-world experiences and teach them practical skills in their chosen field.

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Join Jefferson alumni to explore, *learn and experience the world!*

As part of our commitment to lifelong learning, the Office of Alumni Relations is excited to offer Jefferson alumni a varied itinerary of group travel destinations that combine educational forums and excursions to places of historical and cultural interest, with the opportunity to enjoy unplanned experiences and unique adventures. These trips offer the highest quality travel experience through our partnerships with experienced travel providers.

Visit jefferson.edu/travelprogram to learn more about our upcoming trips.

To request an individual brochure for a specific destination, please contact the **Office of Alumni Relations** at **215-955-7750**.

SOUTHWEST NATIONAL PARKS
MAY 13–21, 2020

**EXPLORE THE MIGHTY
SAINT LAWRENCE SEAWAY**
JUNE 4–16, 2020

**STUNNING SCOTLAND—
HIGHLANDS & ISLANDS**
JULY 11–20, 2020

GRAND CANADIAN PASSAGE
AUGUST 2 - 8, 2020

**RELICS & RETREATS OF THE
WESTERN MEDITERRANEAN**
SEPTEMBER 7–20, 2020

TANZANIA WILDLIFE SAFARI
OCTOBER 6–17, 2020



one day. 4.2.20
one purpose.

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we are
reimagining
Innovator!



This spring, *Innovator* will become the University-wide magazine and will sport a crisp new design. The new *Innovator* will cover major feature stories and exciting events happening across all of our campuses. We look forward to bringing you news from all of our colleges; profiles of our faculty, students, and alumni; and so much more.

Share your story. Let us know what you've been up to in Class Notes! Send your news to Editor@Jefferson.edu.



Jefferson

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Jefferson Design

ANNUAL FASHION SHOW

Showcasing Jefferson Fashion and Textile Work of 2020

Thursday, April 30 • 7 p.m.

MOULIN AT SHERMAN MILLS

Jefferson.edu/FashionShow

INNOVATORS' EXPO

Senior Design Show

May 6 - 13 • 8 a.m. - 8 p.m.

EAST FALLS CAMPUS • GALLAGHER CENTER

CELEBRATION OF INNOVATION

Benefit, Innovation Exhibition and Awards Ceremony

Friday, May 8 • 6 p.m.

EAST FALLS CAMPUS • GALLAGHER CENTER

Jefferson.edu/CelebrationofInnovation